

# Intelligent wind farm management makes the difference

Words: Ralf Köpke



The reactions in the German, specialist media have been consistently positive. Last September, Deutsche Windtechnik which is based in Bremen announced that it had acquired a 70 percent stake in the Dutch company OutSmart B.V. One of the comments was, “Germany’s largest independent service provider in the wind energy sector is strategically positioning itself to win additional contracts for work at sea.”



Erwin Coolen, Managing Director OutSmart B.V.

OutSmart is not the first company in Germany or abroad that Deutsche Windtechnik has acquired a stake in but it is one that opens up many new opportunities. “Our own range of services had hardly any overlap with Deutsche Windtechnik’s, so we complement each other perfectly,” said Erwin Coolen, one of the three managing directors and founders of the Dutch service provider. He sees the merger as a ‘classic win-win situation’.

#### Even stronger together

A look at the areas in which both companies have been active until now shows that this is true. In 2013, the German company established a subsidiary called Deutsche Windtechnik Offshore und Consulting GmbH which focused mainly on service and maintenance tasks. Consulting and project support were seen as additional businesses.

The offshore wind farm management activities of the Dutch company, on the other hand, were focused on technical and commercial management, 24/7 remote monitoring, HSEQ management and data analysis to track things such as the amount of power fed into the grid by offshore wind farms.

“This will enable us to offer comprehensive packages together with OutSmart and position ourselves as a competent and financially strong company with a focus on national and international service and offshore operational management. In addition, we have a very high level of consulting expertise in project tenders and development support,” said Matthias Brandt, Board Director at Deutsche Windtechnik.

The prospect of expanding the company’s portfolio was not the only thing Brandt found attractive about acquiring a stake in OutSmart. By acquiring a majority stake in

the service provider in Velp, which is on the outskirts of Arnhem, Deutsche Windtechnik is expanding its position on the Dutch wind market where several offshore wind farms with a total output of approximately 4,000 MW are to be built during the coming years.

The Netherlands are considered to be one of the safest and largest growth markets for offshore wind in Europe. In 2016, Deutsche Windtechnik acquired all offshore maintenance contracts from the Dutch construction company Ballast Nedam N.V. so it already has a strong presence in the country on the coast of the North Sea.

Deutsche Windtechnik’s staff has been providing service for the foundations and cables at the offshore wind farms Westermeerwind in the IJsselmeer as well as Luchterduinen and Prinses Amaliawindpark in the North Sea for one and a half years now.

OutSmart and Deutsche Windtechnik will be presenting their joint range of services for the first time at their shared booth at the specialist trade fair Offshore Wind Energy which is being organised by the industry association WindEurope and will take place from 6 to 8 June in London. “Without a doubt, this is the most important event for offshore wind energy this year so we will definitely be there together.”

OutSmart Managing Director Dennis Schiricke said. He and his two partners Erwin Coolen and Maarten de Keijzer established OutSmart ten years ago. In the beginning, they focused on operational management for onshore wind farms. “We quickly made a name for ourselves by specialising in services for particularly demanding wind farms,” Schiricke said.

One example that he is thinking of is a wind farm located at a refinery site that belongs to the oil and gas company British Petroleum (BP) in the Netherlands and has special safety requirements.

But it was also clear from the beginning that OutSmart would not be restricting its activities to onshore wind farms: “After initial consultation work for three offshore wind farms in the German North Sea, it became clear to us that we wanted to get into operational management in this industry,” Schiricke’s colleague Erwin Coolen said.

#### Intelligent wind farm management

The Dutch company decided to make the East Frisian port city Emden the hub of its activities, in particular the small airfield.

OutSmart invested two million euros in its Operations Control Centre (OCC) there which it opened in 2013. Specialists at the OCC work around the clock controlling and monitoring the operation of wind turbines and coordinating all maintenance and offshore logistics activities.

OutSmart's OCC is a notable accomplishment in the offshore wind industry: The OCC is the first operating centre for offshore wind farms established and run by an independent service provider.

OutSmart's OCC in Emden is the heart of the company's concept for intelligent offshore wind farm management. Using internally developed software tools, OutSmart is aiming to optimise the operation of all wind turbines at a given offshore wind farm and ensure as much uptime as possible.

To achieve this, OutSmart has developed a sophisticated maintenance concept that significantly reduces repair costs and downtime. "Commercial, legal and technical requirements from previous projects are analysed, and the knowledge gained is utilised for new projects during the early planning and implementation phases," Erwin Coolen said. "It is also important to implement proactive maintenance work as part of the service concept.

This helps to minimise repair costs and downtime for large components as well as other parts that are used throughout the

service life of a turbine." Modern analysis techniques, good job preparation and excellent craftsmanship ensure the high quality of maintenance needed for successful first repairs.

"Offshore wind farms are power plants at sea and their operation is not significantly different from conventional power plants so we have to think like our colleagues in the control rooms of conventional power plants," Erwin Coolen said. In his view, predictive planning of maintenance, repairs and necessary service can save a lot of money: "Our concepts enable us to reduce operational management costs by approximately 20 percent." When the minimum 20-year service life of wind turbines is factored in, this easily adds up to tens of millions of euros.

#### Direct purchase option

For OutSmart, high availability of offshore wind turbines is also the most important prerequisite for innovative power supply agreements in the future, such as direct contracts with industrial clients. There is no question that this type of supply contract helps to increase the revenue

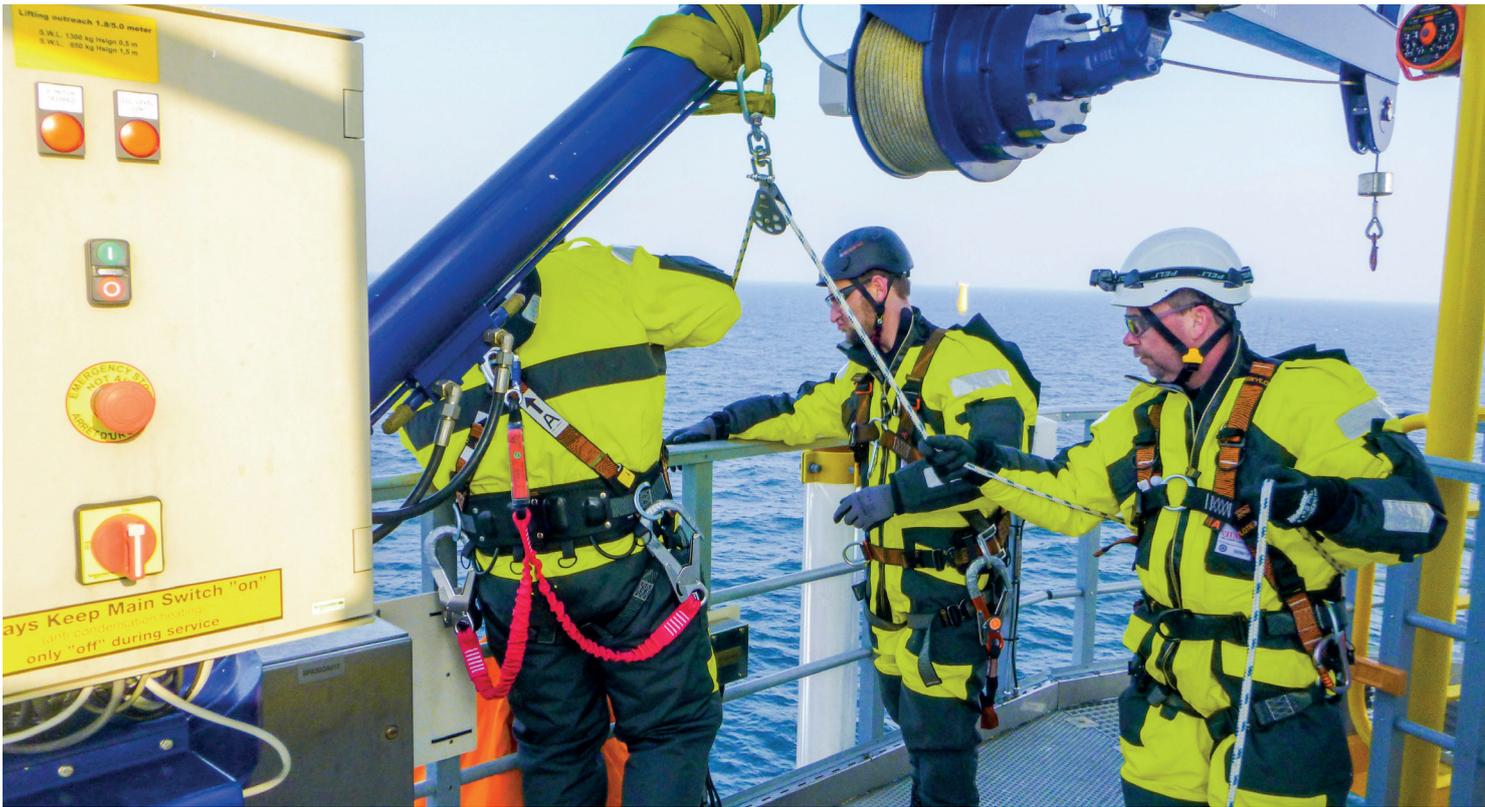
generated by an offshore wind farm. "You can only get clients interested in contracts like this if you can convince them that the offshore wind turbines operate reliably," Erwin Coolen explained.

Direct purchase contracts are still rare in the offshore wind industry. "But that number will increase and we are prepared for it with modern wind power forecasting systems." In addition to the reliability of the turbines, predictability and a modern wind power forecasting system that is optimised for each individual wind farm are both important factors for supplying energy to the market directly. "We operate our installed capacity of 1.2 GW using an intelligent wind farm management system that implements the principles of the Asset Management standard ISO 55000," Erwin Coolen added.

When OutSmart opened the OCC in 2013, the company immediately acquired its first client for 24/7 operational management: the Borkum West wind farm which has a capacity of 200 megawatts.

The project in the North Sea was initiated by Trianel, a consortium of utility





companies, which was able to bring more than 30 municipal and regional utilities from Germany, Austria, Switzerland and the Netherlands on board as shareholders.

At that time, Managing Director Klaus Horstick at Trianel Windkraftwerk Borkum GmbH & Co. KG made the following comment about the beginning of Trianel's cooperation with OutSmart: "The control centre in Emden fulfils all of the operational requirements of our offshore wind farm."

Speaking of Emden, the small local airfield is now being used by three helicopter transportation companies as their base of operations to fly to service deployments at offshore wind farms in the North Sea.

Thanks to its close contacts with these companies, OutSmart understands the capabilities and requirements that helicopters must fulfil for these deployments.

This knowledge puts OutSmart in a position to provide consultation services to the Rijksdienst voor Ondernemend Nederland (RVO), the Dutch Economic Development Agency, in all matters related to the use of helicopters at offshore wind farms.

#### Managing 1,200 MW offshore

After Trianel, OutSmart has now acquired three further clients: In addition to Borkum West, the first phase of it, to be precise, OutSmart has taken over operational management for the offshore wind farms Gemini, the Netherlands, as well as Butendiek and Nordergründe, both in Germany.

The Nordergründe project, which has a capacity of more than 111 MW and is one of a handful inside of the German twelve-mile zone, will go into operation in the autumn of this year. The combined output of these four offshore wind farms is 1,200 megawatts.

This is equivalent to the power produced by one and a half coal-fired power plant blocks. "That makes us the largest independent provider of operational management services for offshore wind farms in Europe," Managing Director Coolen said. In addition to its headquarters in Velp, OutSmart has smaller offices in Hamburg, Paris and London but Emden is now its largest branch.

Twenty-five of its fifty-five employees work in Emden. And further growth in Emden is possible: "We have reached an agreement with the airfield's management that we can use twice as much space if we need it."

This might actually happen in the foreseeable future. OutSmart recently participated in several tenders for existing and planned offshore wind farms. "We will undoubtedly be asked to participate in tenders like this because the initiators of these offshore wind farms know that we have expertise as well as strong financial backing now, thanks to our partnership with Deutsche Windtechnik," Erwin Coolen said.

Visit OutSmart and Deutsche Windtechnik at Offshore WIND ENERGY in London on stand S-M10.

□ [www.deutsche-windtechnik.com](http://www.deutsche-windtechnik.com)

#### Deutsche Windtechnik AG

Deutsche Windtechnik AG which has its headquarters in Bremen (Germany) is a leading provider of independent technical maintenance for wind turbines. Onshore and offshore, the company offers a complete package for technical maintenance of wind turbines from a single source. It has long-term maintenance contracts to provide services for more than 2,800 wind turbines throughout Europe. Its system engineering focuses on Vestas/NEG Micon, Siemens/AN Bonus, Nordex, Senvion, Fuhrländer and Gamesa turbines.

#### OutSmart B.V.

OutSmart is an independent company that focuses on offshore wind farm management, strategic consultation and project support. It was founded in 2006 by three Dutch wind energy experts. OutSmart has more than 45 employees and several offices in Europe. It supports utility companies as well as private and institutional investors in optimising the revenue from their investments in wind energy. OutSmart is responsible for 190 offshore wind turbines in the North Sea.